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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,718	01/26/2006	John G. Rooney	CH920020011US1	4698
877 7590 09/18/2008 IBM CORPORATION, T.J. WATSON RESEARCH CENTER P.O. BOX 218 YORKTOWN HEIGHTS, NY 10598				
EXAMINER ALL FARIAD				
ART UNIT		PAPER NUMBER		
2146				
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09/18/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/536,718

Applicant(s)

ROONEY, JOHN G.

Examiner

FARHAD ALI

Art Unit

2146

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/26/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 07/01/2008

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marco et al. (US 7,203,741 B2) hereinafter Marco in view of Weider et al. (US 6,374,253 B1) hereinafter Weider.

Claim 21

Marco teaches a method for providing index server support to a file sharing application, said index server provided with information on client devices and their sharable files, said method comprising:

a) investigating a hierarchical structure of index servers interconnected in a network, said investigating including:

generating, at an originator client device, an investigation request message that is directed for handling by a remote indexing server; intercepting, at a first intermediary indexing server, said investigation request message sent, said first intermediary indexing server being a closest index server (**Column 6 Lines 18-22, "Method 20 includes the step of intercepting 22 queries and responses in the client-to-client network. According some embodiments of**

the invention, the step of intercepting is accomplished by a redirecting device which may include, for example, a layer 4 switch”);

registering the first intercepting intermediary index server as a parent of said originator client device and storing said intercepting index server identity at said originator client device; and, b) repeating, by said first intercepting intermediary index server, said investigating by handling of investigation requests according to said generating, intercepting and notifying of step a) and registering any further intercepting intermediary indexing server as a parent indexing server of said first intermediary indexing server device; and, c) repeating steps a) for each originator client device in said network that searches for files, d) repeating steps b) for each said further intermediary indexing servers until a root indexing server at a top of said hierarchical structure of index servers in said network is identified as a parent index server; and, **(Column 6 Lines 23-5, “Method 20 further includes the step of storing 24 the intercepted queries and responses in an acceleration server 52. Acceleration server 52 may be located, for example, within a local area network 54 (e.g. 57g and 57k) or in a server 60 belonging to an Internet Service Provider. In some cases, step of storing 24 is accomplished by use of an algorithm which may include analysis of, for example, temporal information, ordinal information, frequency information, client information, identification information or combinations thereof. “Temporal information” as used herein may include, but is not limited to, data such as time of initial storage, total residence**

time in storage, elapsed time since last retrieval from storage, average time between retrievals from storage and time of creation of an original file.

"Time" as used herein may include any reference to an absolute or relative measure of time including, but not limited to an absolute or elapsed time (e.g. 16:43:21 or 3 hrs 21 minutes and 04 seconds since receipt) or an absolute or relative date (e.g. Feb. 22, 2001 or yesterday). "Ordinal information" as used herein refers to, for example, data such as order of receipt and order of retrieval. "Frequency information" as used herein refers to, for example, data such as frequency of retrieval and frequency of appearance in clients of the client-to-client network. "Client information" as used herein refers to, for example, data such as client connection status, client identification, and presence of specific data (i.e. a file or portion thereof) on a specific client. "Identification information" as used herein refers to, for example, data such as file identification, client identification, and identification of content within a file");

e) subsequently issuing, by said originating device, a request for a file under said file sharing application, said request utilizing said identity of said first intermediary index server **(See "Frequency information" above)**, and:

determining if said first intermediary index server does not find this requested file in its index of client devices and their sharable files, and, determining if any other children index servers of said first intermediary index server finds this requested file, and, if the file is not found in file index of each said children index servers of said first

intermediary index server, then, requesting a parent index sever of said first intermediary index server to find figs requested file, said parent index sever, in response, forwarding the file request to all determined children index servers of said parent index server except to said first intermediary indexing server; and, determining if any children index severs of said parent index server finds this requested file; and, if the requested file is found, returning the requested file to said originating client device

(Column 6-7 Lines 56-27, "In some cases a single query or a single response may be intercepted by at least two acceleration servers. For example, a query for a video game called "piggy picnic" originates at client 57h in LAN 54a. The query is first intercepted by acceleration server 52 of client 57g. Because networks may reside one within another, although 57g is a client with respect to the client-to-client network, it (57g) includes server function within LAN 54a. In this case acceleration server 52 of client 57g is not storing a copy of "piggy picnic" from a previous response, so the query is then relayed via ISP server 60 where the query is screened against stored responses in acceleration server 52 of server 60. Again, no match is found. The query is next relayed to user clients 57a, b, and c and to Internet 56. From Internet 56, the query is relayed to LAN 54b where it encounters acceleration server 52 of client 57k, and to Cable TV junction 62/Satellite relay 64 which contain an additional acceleration server 52. By these means, the query eventually reaches all of clients 57. At this point the query has been intercepted, and according to some embodiments stored, in a total of four acceleration servers 52. The result of the query is that copies of "piggy picnic"

are present on clients 57a and 57m. This 10 information is relayed to requesting client 57h via the same channels of communication described hereinabove. At this point client 57 h requests to receive a copy of "piggy picnic" from client 57a. As this request is fulfilled, copies of "piggy picnic" may be stored on acceleration servers 52 of servers 15 60 and 57g. As a result, a subsequent request from client 57c for "piggy picnic" may be answered by transmitting the game directly from acceleration server 52 of server 60. Alternately or additionally a subsequent request from client 57/for "piggy picnic" may be answered by transmitting the 20 game from acceleration server 52 of server 60 via Internet 56 and acceleration server 52 of satellite relay 64 to requesting client 57/ In this case, an additional copy of the game is generated at acceleration server 52 of satellite relay 64. In general, practice of method 20 causes copies of frequently 25 requested data to accumulate in areas where the requests originate")

Marco does not specifically teach notifying said originator client device of the investigation request message of the identity of the first intercepting intermediary index server.

Weider discloses a process where a client issues a query to an index server, and the index server will issue a referral to a given data source or another index server based upon which data sources may be able to fulfill the query. The index server will compare the incoming query to the schema of the data source, rewrites it as necessary, and informs the client of the correct rewritten query as a part of the referral it returns.

The client may now issue a new query to the one data source that may fulfill it (Columns 8-9, lines 45-5).

While Weider teaches a different method of responding to a query than Marco, the teachings disclosed by Weider are indeed relevant. When a data source is found that may possibly service the query for the requesting client, the information regarding the data source and the proper schema to address the new data source are conveyed back to the client in order to readdress that query to the new data source in the proper manner. It is significant that the client is informed of the location to properly direct the query. While Marco teaches a system where a query is intercepted instead of redirected, one of ordinary skill in the art at the time of invention would recognize that informing the client of the intercepting index server would at the least provide for the client the ability to direct messages to the intercepting index server itself, as well as any subsequent requests, which would provide for a more direct route to retrieve information instead of relying on the intercepting index server to intercept it each time. Implementing such a notification would reduce the need to constantly intercept query's made by a client, and therefore reduce the resources required by the indexing system needed to intercept such a message. Such motivation is analagous to Weider's teachings where once the client is informed of the new data source, the client may issue a query directly to it instead of directing it to the original source again, and waiting for a redirect message.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FARHAD ALI whose telephone number is (571)270-1920. The examiner can normally be reached on Monday thru Friday, 7:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Farhad Ali/
Examiner, Art Unit 2146

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2146